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Material Properties

Click on the property name in the column header to sort the materials by that property. Click on a question mark for a definition of the property. Need information on machining, annealing or fabricating? Click Here

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RFQ PDF SSS SS S	• Tensile Elongation.	* Tensile Modulus **	* Took Impact strength	💃 Fleetund strength 💃 Yield ASTM D790, psi	Flexural modulus ASTA 5740 psi	* Compression **	* Compressive 45TM	Friction 40pel 50/pm & TA ASTM CA70	
TABS Unfilled 6,100	20	310,000	7,70	10,500	340,000	2,900		0.35	
ABS Conductive Reinforced 17,250	2.50	350,000	1.00	23,500	1,450,000				
ABS FR Reinforced 5,500	20	320,000	4.00	9,500	330,000	7,650			
ABS SD Reinforced 5,000	13		6.00	8,000	260,000				
Copolymer Unfilled 8,800	25	380,000	1.00	11,000	360,000	4,500	290,000	0.21	
Acetal Copolymer SD Reinforced 6,600	45		1.90	7,000	210,000			0.18	
Cacrylic (PMMA) Extruded Unfilled 10,100	5.10	431,000	0.28	14,600	486,000	17,000			
Acrylic Cast Unfilled 8,038	2.70	425,000	0.45	12,000	457,000	16,000			
Ardel® Polyarylate Unfilled 10,000	50	300,000	3.80	11,000	310,000	12,180			
Celazole® PBI Unfilled 20,000	3	850,000	0.50	32,000	950,000	50,000	900,000	0.24	
CPVC Unfilled 7,300	35	450,000	9.00	14,300	361,000	10,100	196,000		
☐ Delrin® 100AF Reinforced 8,000	15	435,000	0.70	12,000	445,000	16,000	350,000	0.19	
☐ Defrin® 150 Unfilled 9,000	25	350,000	1.50	11,500	420,000	5,200	450,000	0.20	
Delrin® 570 Reinforced 8,500	12	870,000	2.85	10,700	725,000				
TETFE Unfilled 6,250	225		No Break	4,640	145,000	2,470		0.23	
TFEP Unfilled 3,400	325	55,000	No Break		85,000	2,100		0.20	
Halar® ECTFE Unfilled 7,800	250	240,000	No Break	6,800	245,000			0.19	
THDPE Unfilled 4,423	>1,350	225,000	1.30		167,000			0.28	
HPV 13 Reinforced 12,500	17.50	858,000	0.70	10,000	350,000	10,500	350,000	0.12	
Hydel® PEI-7 Reinforced 9,400	4	400,000	1.40	16,250	424,000	16,200			
Hydex® 202 Unfilled 9,000	80	340,000	10.00	12,000	280,000			0.22	
☐ Hydex® 301 Unfilled 10,000	140	310,000	2.40	14,000	340,000			0.21	

		Unfilled	9,400	50	425,000	0.70	12,000 420,00	0		0.25
Hydex® 4101L		Reinforced	7,200	40	380,000	0.70	390,00	0		0.11
∰ Hydlar® Z		Reinforced	16,000	4	1,300,000	2.70	23,000 900,00	0 19,300		
₩ Hytrel® 5556		Reinforced	6,000	500	26,000		26,00)		
Imidex®		Unfilled	17,100	110	442,780		548,00	0		
☐ Laminate G-10/FR-4 Glass Epoxy		Reinforced	45,000			14.00	70,000	55,000		
C Laminate G-11 Glass Epoxy		Reinforced	43,000				80,000 3,000,0	00 63,000		
Laminate G-7 Glass Silicone		Reinforced	18,000				25,000	45,000		
☐ Laminate G-9 Glass Melamine		Reinforced	44,000			12.50	61,000 2,000,0	00 70,000		
LDPE		Unfilled	1,943	515	41,615	No Break	1,175 28,56	5		0.60
Macor® Ceramic		Unfilled			9,700,000		13,600	50,000		
Meldin® 7001		Unfilled	12,500	8			15,800 4,600,0	00	3,800,000	
Meldin® 7003		Reinforced	9,200	5.50			13,000 4,600,0	00	3,600,000	
™eldin® 7021		Reinforced	9,500	4.70			15,800 5,300,0	00	4,500,000	
™ Meldin® 7022		Reinforced	8,000	3			13,000 7,700,0	00	4,800,000	
™ Meldin® 7211		Reinforced	7,500	4			11,800 5,000,0	00	3,500,000	
Noryl® 30% GF		Reinforced	15,500	5	1,000,000	2.00	22,000 830,00	0		0.27
Noryl® PPO		Unfilled	9,200	25	350,000	3.50	14,400 370,00	0		0.39
Nylon 6 Cast		Unfilled	12,500	25	350,000	0.60	12,500 350,00	0		0.26
Nylon 6 Cast Bearing Grade		Reinforced	11,000	20	350,000	0.70	12,500			
Nylon & Cast Graphite Filled		Reinforced	11,000	20	350,000	0.60	12,500 350,00	0		
Nylon 6 Cast MD Filled		Reinforced	11,000	20	350,000	0.60	12,500 350,00	0		
Nylon 6 Cast MD/Oil Filled		Reinforced	8,500	40		1.75	12,800 400,00	0		0.14
Nylon 6 Cast Oil Filled		Reinforced	8,800	25	350,000	1.20	12,500 325,00	0		
Nylon 6/12 Extruded		Unfilled	8,000	20	300,000	0.90	275,00	0 2,400		
Nylon 6/6 30% GF		Reinforced	12,000	10	400,000	1.00	18,500 550,00	0		0.31
Nylon 6/6 Extruded		Unfilled	10,000	25	350,000	1.10	15,500 440,00	0 5,000		0.26
Nylon 6/6 Heat Stabilized		Reinforced	10,000	25	350,000	1.20	440,00	0		
Nylon 6/6 MD Filled		Reinforced	11,000	15	450,000	2.10	17,500 450,00	0		
Nylon 6/6 Super Tough		Reinforced	7,200	60		17.00	9,800 245,00	0		0.28
PCTFE		Unfilled	5,000	150						
PEEK		Unfilled	14,000	50	522,100	1.55	27,700 530,00	0 17,100	550,000	0.18
□ PEEK 30% CR		Reinforced	30,200	1.30	1,885,400	1.60	46,100 1,885,4	00 34,800	1,275,000	0.22
[™] PEEK 30% GR		Reinforced	22,800	2.20	1,406,800	1.80	33,800 1,495,2	00 31,200	1,000,000	0.30
PEEK Bearing Grade		Reinforced	17,300	2.50		3.25	30,000 1,400,0	00 22,000		0.20
PET		Unfilled	11,500	15	400,000	0.60	15,800 411,00	0 14,900	421,000	0.25

III PETG	Unfilled	7,700	50	320,000	1.70	11,200 310,00)		
PFA	Unfilled	3,600	300	290,000	No Break	85,000			0.21
Phenolic C Canvas	Unfilled	12,000			1,95	18,000 1,600,00	0 34,000		
Phenolic CE Canvas	Reinforce	ed 11,000			1.70	17,500 1,600,00	0 34,000		
Phenolic L Linen	Unfilled	14,000			1.70	24,500 1,700,00	00 38,000		
Phenolic LE Linen	Reinforce	ed 13,000			1.35	22,000 1,600,00	0 36,000		
Phenolic N-1 Nylon	Reinforce	ed 8,000				14,000 700,00	25,000		
Phenolic X Paper	Reinforce	ed 20,000			0.82	34,000 1,900,00	00 35,000		
Phenolic XX Paper	Unfilled	13,500			0.50	22,000	25,000		
Phenolic XXX Paper	Unfilled	14,000				20,000 1,300,00	00 35,000		
Polycarbonate	Unfilled	9,500	110	345,000	14.00	13,500 345,00	12,500	345,000	0.38
Polycarbonate 20% GF	Reinforce	ed 16,000	5	860,000	2.06	19,000 798,00	16,000		0.22
Polycarbonate 40% GF	Reinforce	ed 23,000	3	1,680,000	2.50	27,000 1,400,00	0 21,000		
Polypropylene Copolymer	Unfilled	4,800	650	152,000	7.80	3,750 184,00)		
Polypropylene FR	Unfilled	3,250	600		0.15	145,00)		
Polypropylene Homopolymer	Unfilled	5,150	400	240,000	1.20	7,250 212,50	5,750	225,000	0.26
Polystyrene High Impact	Unfilled	3,500	52	239,000	2.10	6,200 277,00)		
Polysulfone	Unfilled	10,200	75	360,000	1.30	15,400 390,00	13,900	375,000	0.37
PPS	Unfilled	8,700	4	480,000	0.50	17,400 435,00	13,700	435,000	0.24
TTPE	Unfilled	4,000	400	66,700	3.50	72,000	1,000		0.10
TPTFE 25% CF	Reinforce	ed 1,950	115				1,600		
PTFE 25% GF	Reinforce	ed 1,500	100				1,400	97,200	
[™] PVC	Unfilled	7,500	35	411,000	0.80	12,800 481,00	9,500	375,000	0.30
[™] PVDF	Unfilled	7,800	35	350,000	3.00	10,750 310,00	11,600		0.24
Radel® A PES	Unfilled	12,000	75	385,000	1.60	16,100 420,00	14,500	388,000	
Radel® R PPSU	Unfilled	10,100	90	340,000	13.00	13,200 350,00	14,350	251,000	
Radel® R5500	Unfilled	10,100	90	340,000	10.00	13,200 350,00	14,350	251,000	
Rulon® AR	Reinforce	ed 2,000	175		6.00				0.20
∏ Rulon@ J	Reinforce	ed 2,000	180			180,00	1,000		0.16
Rulon® LR	Reinforce	ed 2,000	135		6.00				0.20
Ryton® PPS 40% GF	Reinforce	ed 7,842	1		0.90	26,650			
Ryton® PPS Bearing Grade	Unfilled	5,100	1.50		1.60	7,600			
Semitron® ESd 225	Reinforce	ed 5,400	15	200,000	1.50	7,300 220,00	8,000	175,000	0.29
Semitron® ESd 410C	Reinforce	ed 9,000	2	850,000	0.80	12,000 850,00	19,500	600,000	0.18
Semitron® ESd 420	Reinforce	ed 9,500	2	550,000	1.00	14,500 525,00	16,500	350,000	0.20
Semitron® ESd 500HR	Reinforce	ed 1,500	50	250,000	1.00	2,200 350,00	3,800	225,000	0.10
Semitron® ESd 520HR	Reinforce	ed 12,000	3	800,000	0.80	20,000 850,00	30,000	600,000	0.24

Tecator® TI5013	Unfilled	1 21,000	15	2.30	33,000 7	711,000	30,000		
Tecator® TI5031	Unfilled	19,000	10	2.00	23,000 8	370,000			
Tecator® XP142T	Reinfor	ced 17,000	2	0.75	21,000 8	321,000			
TPX® Polymethylpentene	Unfilled	1,400	33 270,000	0.95	4,000	160,000	3,340		
UHMW-PE	Unfilled	5,800 2	200 120,000	No Break	1	110,000	2,400	75,000	0.12
UHMW-PE Anti-Static	Reinfor	ced 4,000 1	140 156,900	No Break	1	100,000			0.12
UHMW-PE Oil Filled	Reinfor	ced 6,527 2	280 76,000	No Break		63,818			0.13
∭ Ultem®	Unfilled	15,200	60 430,000	1.00	22,000 4	480,000	21,900	480,000	0.17
Ultem® 2300	Reinfor	ced 24,500	13 1,300,000	1.60	33,000 1,	,300,000	30,700	938,000	

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.

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